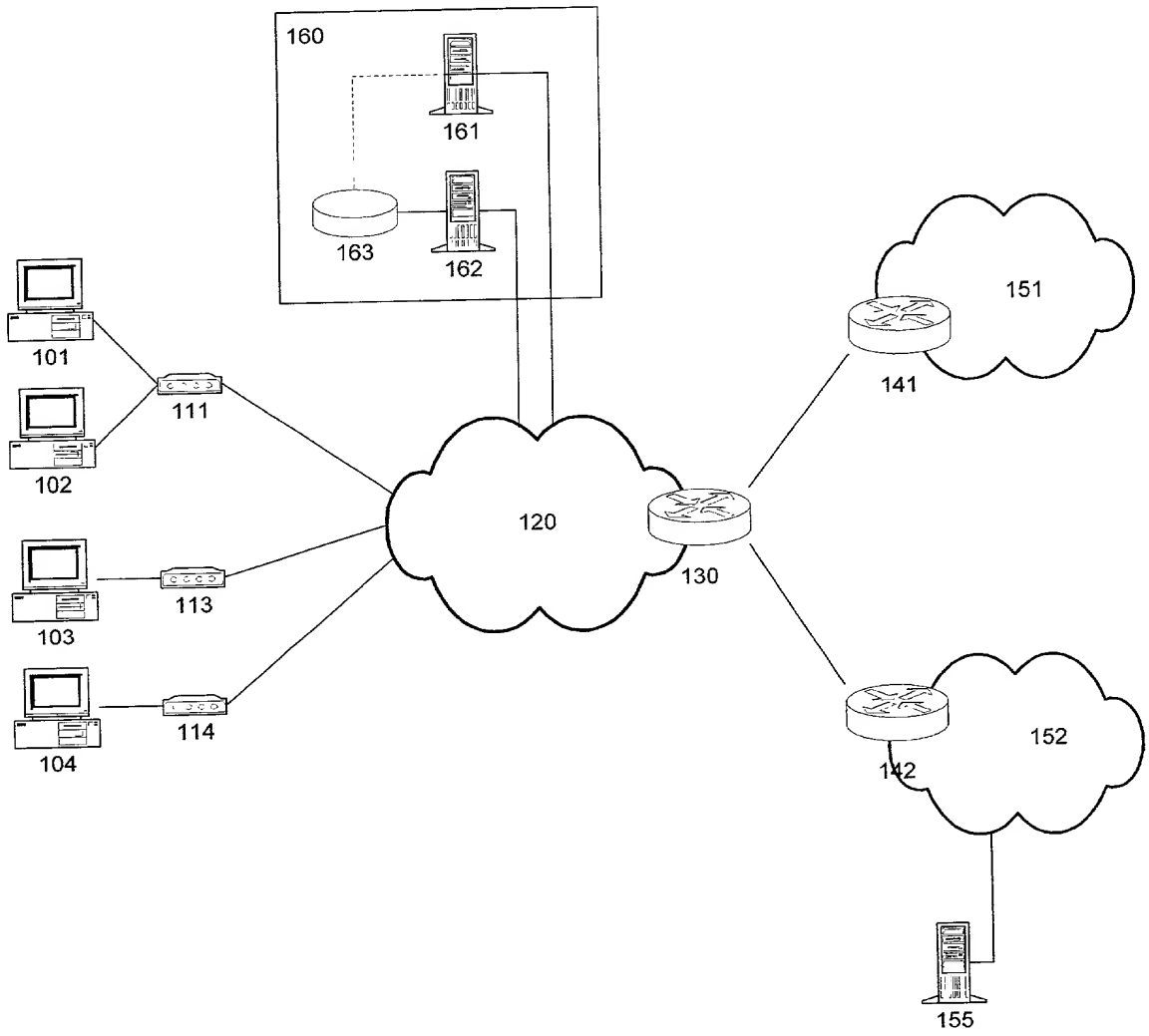
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FIG. 1

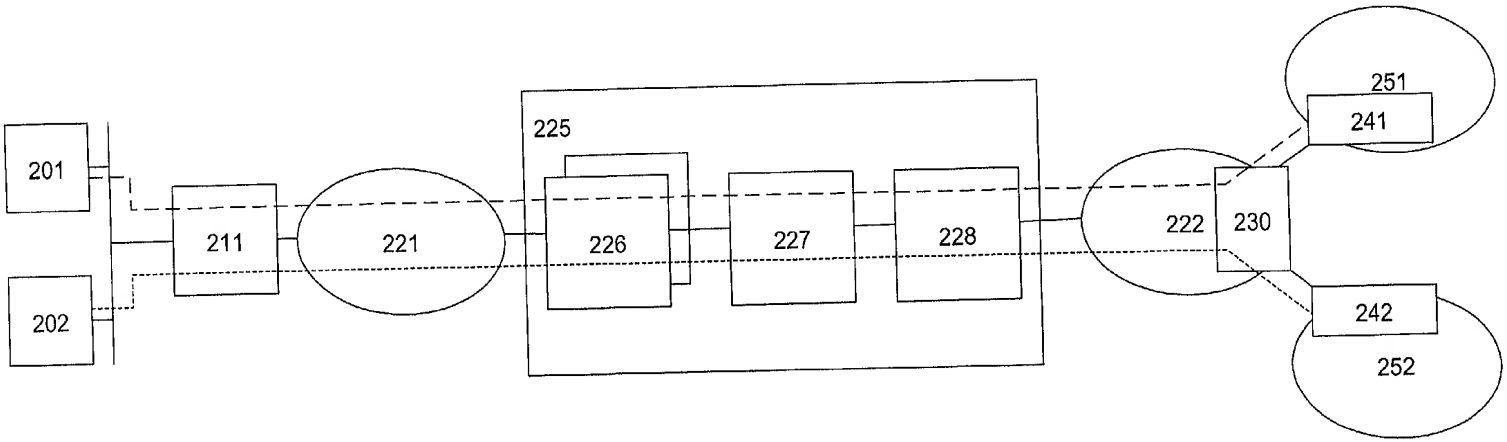
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FIG. 2A

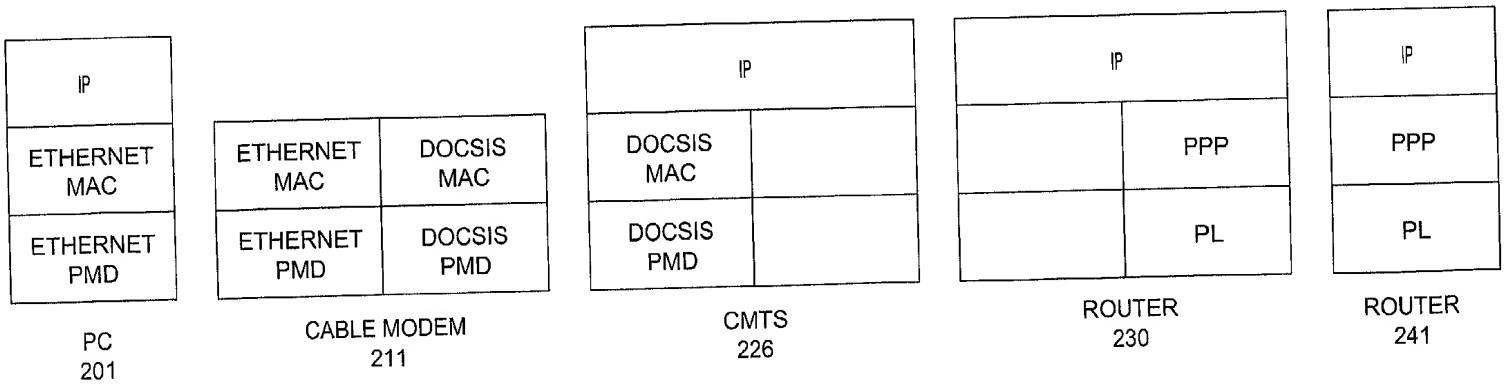
IP
ETHERNET MAC
ETHERNET PMD
PC 201
ETHERNET MAC
DOCSIS MAC
ETHERNET PMD
DOCSIS PMD
CABLE MODEM 211
IP
DOCSIS MAC
DOCSIS PMD
CMTS 226
IP
PPP
PL
ROUTER 230
IP
PPP
PL
ROUTER 241

FIG. 2B

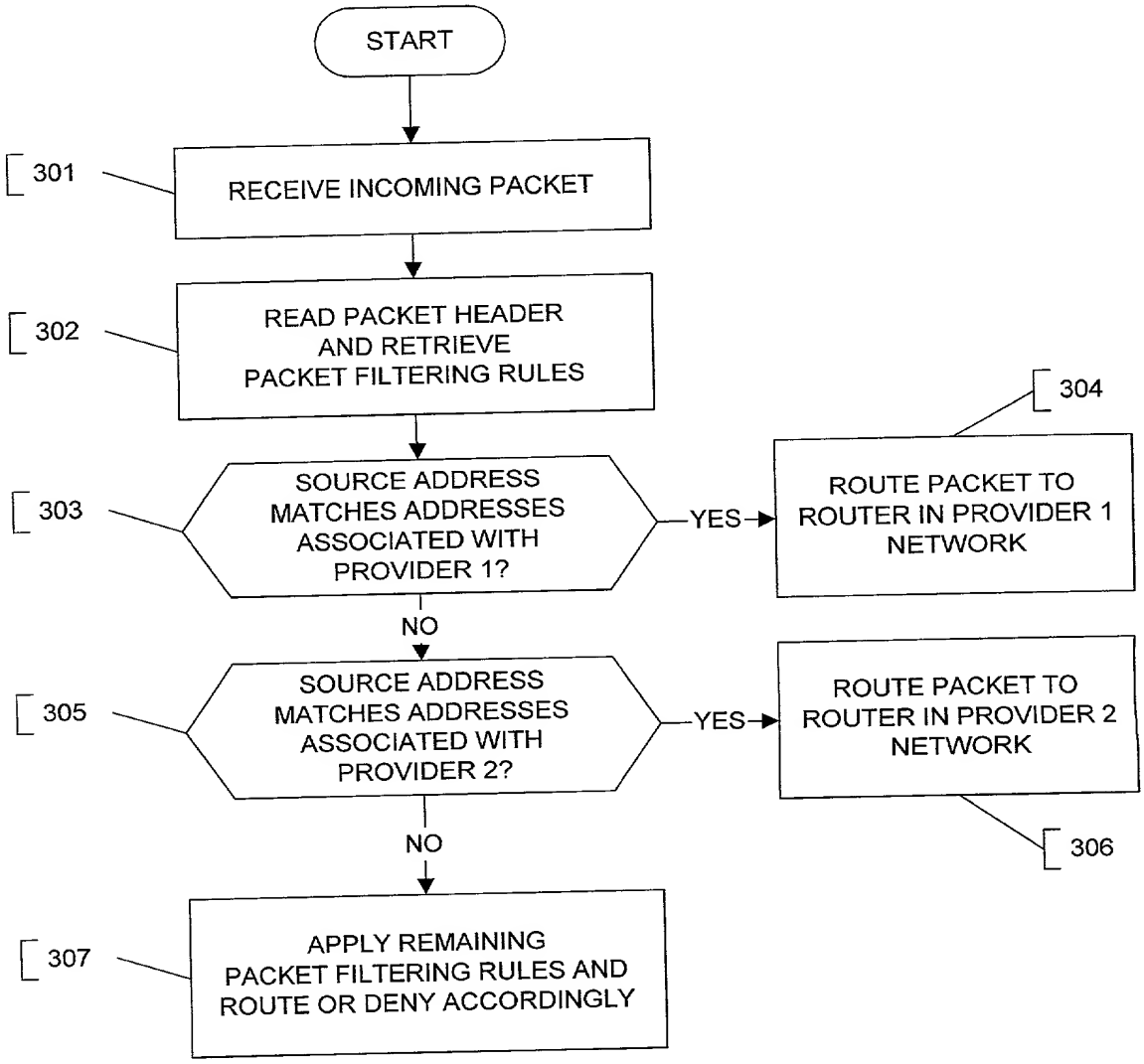
START
301
RECEIVE INCOMING PACKET
302
READ PACKET HEADER AND RETRIEVE PACKET FILTERING RULES
303
SOURCE ADDRESS MATCHES ADDRESSES ASSOCIATED WITH PROVIDER 1?
YES
304
ROUTE PACKET TO ROUTER IN PROVIDER 1 NETWORK
NO
305
SOURCE ADDRESS MATCHES ADDRESSES ASSOCIATED WITH PROVIDER 2?
YES
ROUTE PACKET TO ROUTER IN PROVIDER 2 NETWORK
306
NO
307
APPLY REMAINING PACKET FILTERING RULES AND ROUTE OR DENY ACCORDINGLY

FIG. 3

```
401  interface cable x/y
402  ...
403  ip policy route-map source_route
404  ...
405  !

406  route-map source_route
407  match ip address isp1_subs
408  set ip next-hop isp1_next-hop_address
409  match ip address isp2_subs
410  set ip next-hop isp2_next-hop_address
411  ...
412  access-list isp1_subs permit isp1_prefix1
isp1_prefix1_wildcard any any
413  access-list isp1_subs permit isp1_prefix2
isp1_prefix2_wildcard any any
414  ...
```

FIG. 4

Provided by eDocket

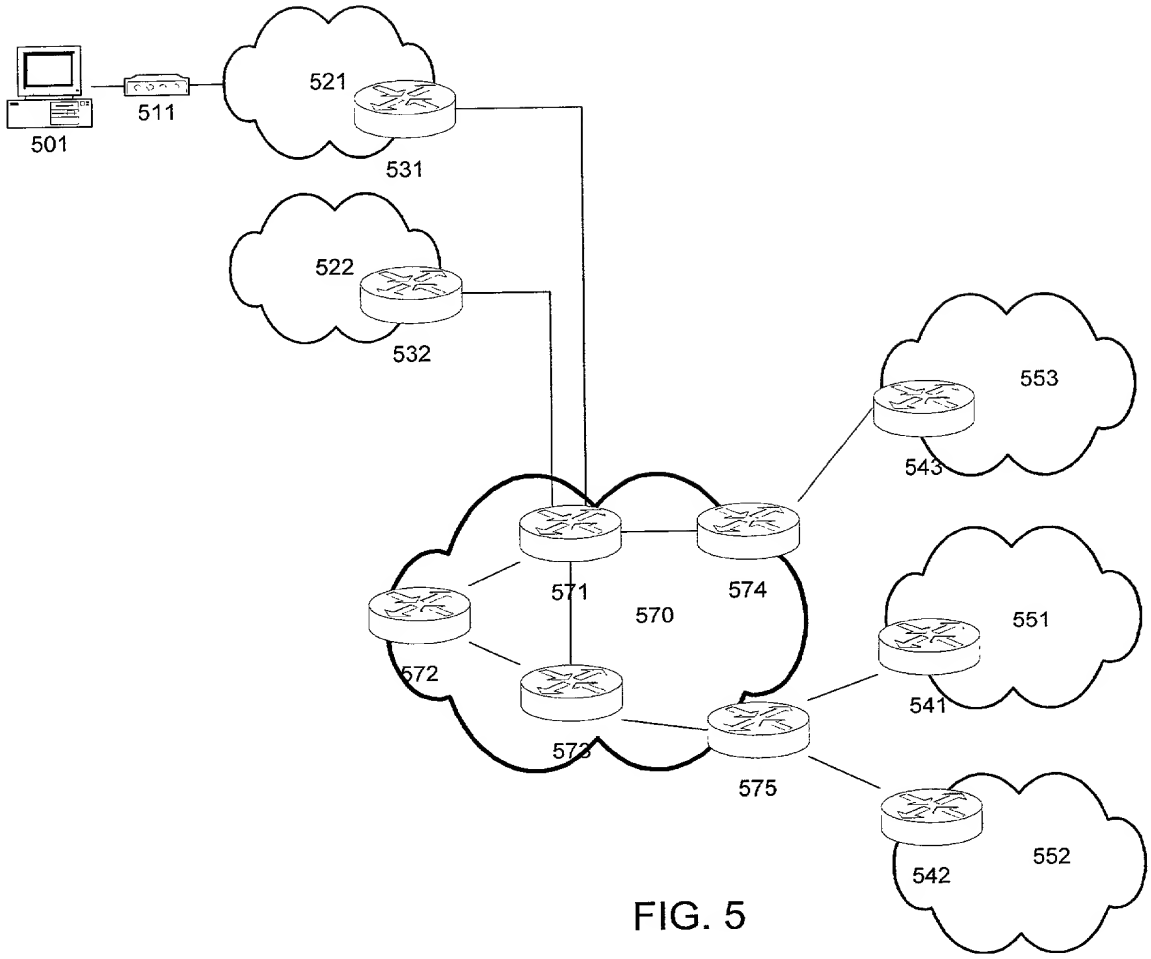

FIG. 5

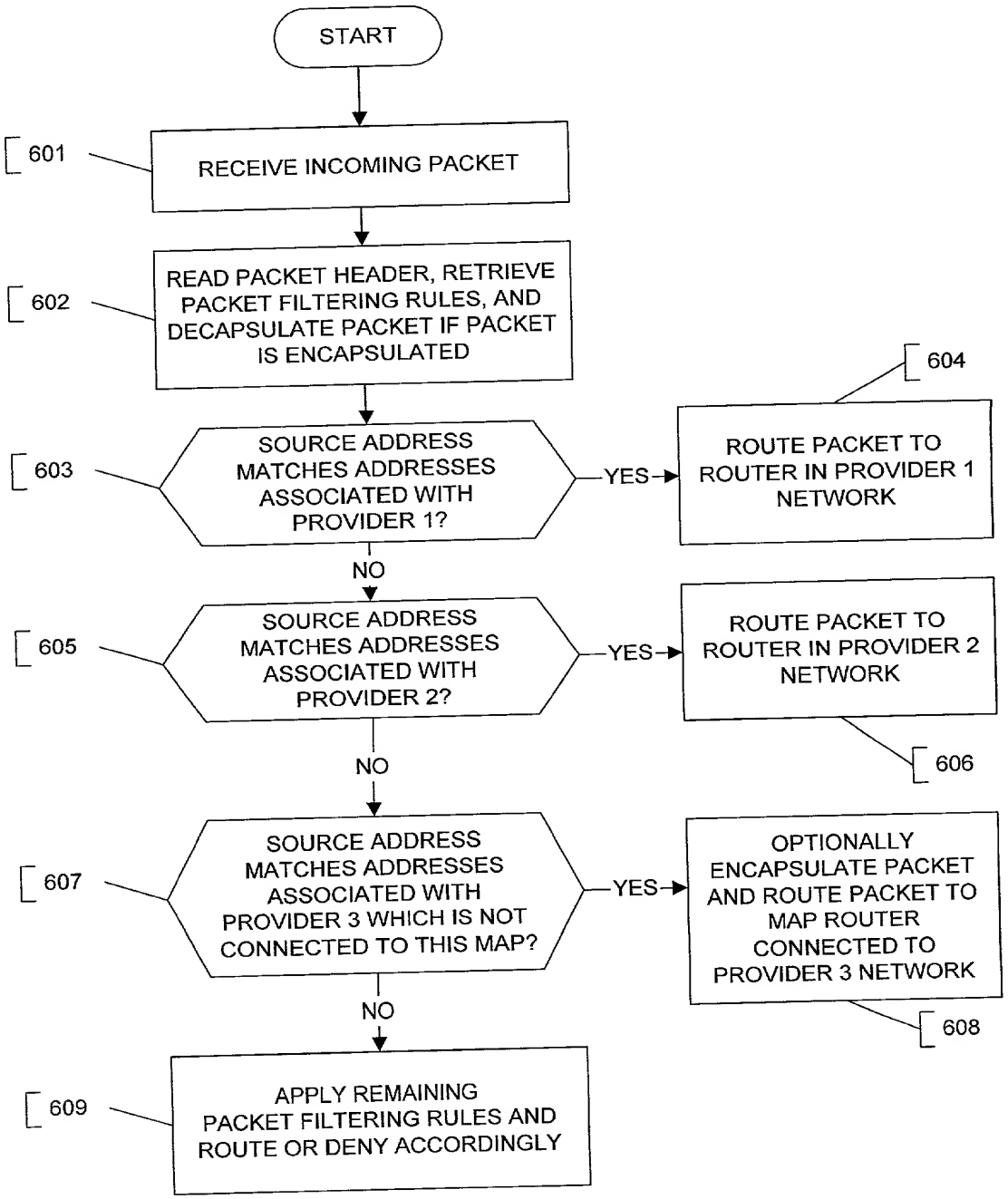
START
601
RECEIVE INCOMING PACKET
602
READ PACKET HEADER, RETRIEVE PACKET FILTERING RULES, AND DECAPSULATE PACKET IF PACKET IS ENCAPSULATED
603
SOURCE ADDRESS MATCHES ADDRESSES ASSOCIATED WITH PROVIDER 1?
YES
604
ROUTE PACKET TO ROUTER IN PROVIDER 1 NETWORK
NO
605
SOURCE ADDRESS MATCHES ADDRESSES ASSOCIATED WITH PROVIDER 2?
YES
ROUTE PACKET TO ROUTER IN PROVIDER 2 NETWORK
606
NO
607
SOURCE ADDRESS MATCHES ADDRESSES ASSOCIATED WITH PROVIDER 3 WHICH IS NOT CONNECTED TO THIS MAP?
YES
OPTIONALLY ENCAPSULATE PACKET AND ROUTE PACKET TO MAP ROUTER CONNECTED TO PROVIDER 3 NETWORK
608
NO
609
APPLY REMAINING PACKET FILTERING RULES AND ROUTE OR DENY ACCORDINGLY

FIG. 6